

Exercise myocardial perfusion scintigraphy is useful for evaluating myocardial ischemia even in the elderly

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Pharmacologic stress testing is recommended to elderly patients as a valuable alternative to exercise testing. We examined whether exercise testing is as useful for evaluating myocardial ischemia in the elderly as in the young. The consecutive 1,508 patients who underwent exercise ^{201}Tl single-photon emission computed tomography (SPECT) were divided into six age groups: 6–29 years ($n = 56$), 30–44 ($n = 143$), 45–54 ($n = 311$), 55–64 ($n = 498$), 65–74 ($n = 402$), and 75–88 ($n = 98$). Both heart rate and rate-pressure product at peak exercise were significantly lower in patients aged 75–88 than in the other five groups. The frequency of ischemic ST depression was higher in patients aged 75–88 than in those aged 6–74, although the difference was not significant. Moreover, the frequency of ^{201}Tl transient defect was significantly higher in patients aged 75–88 than in those aged 6–74. On the other hand, the sensitivity of ischemic ST depression for ^{201}Tl transient defect was similar among the six groups, but the specificity was significantly lower in patients aged 75–88 than in those aged 6–74. In conclusion, exercise ^{201}Tl SPECT is useful for evaluating myocardial ischemia even in the elderly, but exercise electrocardiography has limitations such as lower specificity in the elderly than ^{201}Tl SPECT.

Key words: elderly, exercise testing, electrocardiography, Tl-201, SPECT